

RAW SEQUENCE LISTING

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Application Serial Number: 10/568,033
Source: LFWD
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DATE: 11/15/2006

PATENT APPLICATION: US/10/568,033

TIME: 11:50:15

Input Set : A:\SPO-125.ST25.txt

Output Set: N:\CRF4\11152006\J568033.raw

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3 <110> APPLICANT: Nakajima, Toshihiro
4      Amano, Tetsuya
5      Yagashita, Naoko
7 <120> TITLE OF INVENTION: THERAPEUTIC PREPARATION FOR HEMATOPOIETIC DISEASE
9 <130> FILE REFERENCE: BHP-A0301P
11 <140> CURRENT APPLICATION NUMBER: US 10/568,033
12 <141> CURRENT FILING DATE: 2006-02-10
14 <150> PRIOR APPLICATION NUMBER: PCT/JP2004/011951
15 <151> PRIOR FILING DATE: 2004-08-13
17 <150> PRIOR APPLICATION NUMBER: US 60/495,001
18 <151> PRIOR FILING DATE: 2003-08-13
20 <160> NUMBER OF SEQ ID NOS: 4
22 <170> SOFTWARE: PatentIn Ver. 2.0
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 3374
26 <212> TYPE: DNA
27 <213> ORGANISM: Homo sapiens
29 <220> FEATURE:
30 <221> NAME/KEY: CDS
31 <222> LOCATION: (403)..(2256)
33 <400> SEQUENCE: 1
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38 gattttcttg ccacagcate cattctgggt aggctgggtga tcttctgagt agtgatagat 180
40 tggttgggtg tgagggtttac aggtgttccc ttctcttact cctgggtgtg gctacaatca 240
42 ggtggcgtct agagcagcat gggacagggt ggtaagggga gtcttctcat tatgcagaag 300
44 tgatcaactt aaatctctgt cagatctacc tttatgtagc ccggcagtcg cgcggattga 360
46 gcgggctcgc ggcgctgggt tctgtgtctc cgggccaggg ca atg ttc cgc acg 414
47                                     Met Phe Arg Thr
48                                     1
50 gca gtg atg atg gcg gcc agc ctg gcg ctg acc ggg gct gtg gtg gct 462
51 Ala Val Met Met Ala Ala Ser Leu Ala Leu Thr Gly Ala Val Val Ala
52 5 10 15 20
54 cac gcc tac tac ctc aaa cac cag ttc tac ccc act gtg gtg tac ctg 510
55 His Ala Tyr Tyr Leu Lys His Gln Phe Tyr Pro Thr Val Val Tyr Leu
56 25 30 35
58 acc aag tcc agc ccc agc atg gca gtc ctg tac atc cag gcc ttt gtc 558
59 Thr Lys Ser Ser Pro Ser Met Ala Val Leu Tyr Ile Gln Ala Phe Val
60 40 45 50
62 ctt gtc ttc ctt ctg ggc aag gtg atg ggc aag gtg ttc ttt ggg caa 606
63 Leu Val Phe Leu Leu Gly Lys Val Met Gly Lys Val Phe Phe Gly Gln
64 55 60 65
66 ctg agg gca gca gag atg gag cac ctt ctg gaa cgt tcc tgg tac gcc 654

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67 Leu Arg Ala Ala Glu Met Glu His Leu Leu Glu Arg Ser Trp Tyr Ala
68      70      75      80
70 gtc aca gag act tgt ctg gcc ttc acc gtt ttt cgg gat gac ttc agc 702
71 Val Thr Glu Thr Cys Leu Ala Phe Thr Val Phe Arg Asp Asp Phe Ser
72 85      90      95      100
74 ccc cgc ttt gtt gca ctc ttc act ctt ctt ctc ttc ctc aaa tgt ttc 750
75 Pro Arg Phe Val Ala Leu Phe Thr Leu Leu Leu Phe Leu Lys Cys Phe
76      105      110      115
78 cac tgg ctg gct gag gac cgt gtg gac ttt atg gaa cgc agc ccc aac 798
79 His Trp Leu Ala Glu Asp Arg Val Asp Phe Met Glu Arg Ser Pro Asn
80      120      125      130
82 atc tcc tgg ctc ttt cac tgc cgc att gtc tct ctt atg ttc ctc ctg 846
83 Ile Ser Trp Leu Phe His Cys Arg Ile Val Ser Leu Met Phe Leu Leu
84      135      140      145
86 ggc atc ctg gac ttc ctc ttc gtc agc cac gcc tat cac agc atc ctg 894
87 Gly Ile Leu Asp Phe Leu Phe Val Ser His Ala Tyr His Ser Ile Leu
88      150      155      160
90 acc cgt ggg gcc tct gtg cag ctg gtg ttt ggc ttt gag tat gcc atc 942
91 Thr Arg Gly Ala Ser Val Gln Leu Val Phe Gly Phe Glu Tyr Ala Ile
92 165      170      175      180
94 ctg atg acg atg gtg ctc acc atc ttc atc aag tat gtg ctg cac tcc 990
95 Leu Met Thr Met Val Leu Thr Ile Phe Ile Lys Tyr Val Leu His Ser
96      185      190      195
98 gtg gac ctc cag agt gag aac ccc tgg gac aac aag gct gtg tac atg 1038
99 Val Asp Leu Gln Ser Glu Asn Pro Trp Asp Asn Lys Ala Val Tyr Met
100      200      205      210
102 ctc tac aca gag ctg ttt aca ggc ttc atc aag gtt ctg ctg tac atg 1086
103 Leu Tyr Thr Glu Leu Phe Thr Gly Phe Ile Lys Val Leu Leu Tyr Met
104      215      220      225
106 gcc ttc atg acc atc atg atc aag gtg cac acc ttc cca ctc ttt gcc 1134
107 Ala Phe Met Thr Ile Met Ile Lys Val His Thr Phe Pro Leu Phe Ala
108      230      235      240
110 atc cgg ccc atg tac ctg gcc atg aga cag ttc aag aaa gct gtg aca 1182
111 Ile Arg Pro Met Tyr Leu Ala Met Arg Gln Phe Lys Lys Ala Val Thr
112 245      250      255      260
114 gat gcc atc atg tct cgc cga gcc atc cgc aac atg aac acc ctg tat 1230
115 Asp Ala Ile Met Ser Arg Arg Ala Ile Arg Asn Met Asn Thr Leu Tyr
116      265      270      275
118 cca gat gcc acc cca gag gag ctc cag gca atg gac aat gtc tgc atc 1278
119 Pro Asp Ala Thr Pro Glu Glu Leu Gln Ala Met Asp Asn Val Cys Ile
120      280      285      290
122 atc tgc cga gaa gag atg gtg act ggt gcc aag aga ctg ccc tgc aac 1326
123 Ile Cys Arg Glu Glu Met Val Thr Gly Ala Lys Arg Leu Pro Cys Asn
124      295      300      305
126 cac att ttc cat acc agc tgc ctg cgc tcc tgg ttc cag cgg cag cag 1374
127 His Ile Phe His Thr Ser Cys Leu Arg Ser Trp Phe Gln Arg Gln Gln
128      310      315      320
130 acc tgc ccc acc tgc cgt atg gat gtc ctt cgt gca tgc ctg cca gcg 1422
131 Thr Cys Pro Thr Cys Arg Met Asp Val Leu Arg Ala Ser Leu Pro Ala

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 132 | 325 | | | | | 330 | | | | 335 | | | | 340 | | | |
| 134 | cag | tca | cca | cca | ccc | ccg | gag | cct | gcg | gat | cag | ggg | cca | ccc | cct | gcc | 1470 |
| 135 | Gln | Ser | Pro | Pro | Pro | Pro | Glu | Pro | Ala | Asp | Gln | Gly | Pro | Pro | Pro | Ala | |
| 136 | | | | | | 345 | | | | 350 | | | | 355 | | | |
| 138 | ccc | cac | ccc | cca | cca | ctc | ttg | cct | cag | ccc | ccc | aac | ttc | ccc | cag | ggc | 1518 |
| 139 | Pro | His | Pro | Pro | Pro | Leu | Leu | Pro | Gln | Pro | Pro | Asn | Phe | Pro | Gln | Gly | |
| 140 | | | | | | 360 | | | | 365 | | | | 370 | | | |
| 142 | ctc | ctg | cct | cct | ttt | cct | cca | ggc | atg | ttc | cca | ctg | tgg | ccc | ccc | atg | 1566 |
| 143 | Leu | Leu | Pro | Pro | Phe | Pro | Pro | Gly | Met | Phe | Pro | Leu | Trp | Pro | Pro | Met | |
| 144 | | | | | | 375 | | | | 380 | | | | 385 | | | |
| 146 | ggc | ccc | ttt | cca | cct | gtc | ccg | cct | ccc | ccc | agc | tca | gga | gag | gct | gtg | 1614 |
| 147 | Gly | Pro | Phe | Pro | Pro | Val | Pro | Pro | Pro | Pro | Ser | Ser | Gly | Glu | Ala | Val | |
| 148 | | | | | | 390 | | | | 395 | | | | 400 | | | |
| 150 | gct | cct | cca | tcc | acc | agt | gca | gca | gcc | ctt | tct | cgg | ccc | agt | gga | gca | 1662 |
| 151 | Ala | Pro | Pro | Ser | Thr | Ser | Ala | Ala | Ala | Leu | Ser | Arg | Pro | Ser | Gly | Ala | |
| 152 | 405 | | | | | 410 | | | | 415 | | | | 420 | | | |
| 154 | gct | aca | acc | aca | gct | gct | ggc | acc | agt | gct | act | gct | gct | tct | gcc | aca | 1710 |
| 155 | Ala | Thr | Thr | Thr | Ala | Ala | Gly | Thr | Ser | Ala | Thr | Ala | Ala | Ser | Ala | Thr | |
| 156 | | | | | | 425 | | | | 430 | | | | 435 | | | |
| 158 | gca | tct | ggc | cca | ggc | tct | ggc | tct | gcc | cca | gag | gct | ggc | cct | gcc | cct | 1758 |
| 159 | Ala | Ser | Gly | Pro | Gly | Ser | Gly | Ser | Ala | Pro | Glu | Ala | Gly | Pro | Ala | Pro | |
| 160 | | | | | | 440 | | | | 445 | | | | 450 | | | |
| 162 | ggt | ttc | ccc | ttc | cct | cct | ccc | tgg | atg | ggt | atg | ccc | ctg | cct | cca | ccc | 1806 |
| 163 | Gly | Phe | Pro | Phe | Pro | Pro | Pro | Trp | Met | Gly | Met | Pro | Leu | Pro | Pro | Pro | |
| 164 | | | | | | 455 | | | | 460 | | | | 465 | | | |
| 166 | ttt | gcc | ttc | ccc | cca | atg | cct | gtg | ccc | cct | gcg | ggc | ttt | gct | ggg | ctg | 1854 |
| 167 | Phe | Ala | Phe | Pro | Pro | Met | Pro | Val | Pro | Pro | Ala | Gly | Phe | Ala | Gly | Leu | |
| 168 | | | | | | 470 | | | | 475 | | | | 480 | | | |
| 170 | acc | cca | gag | gag | cta | cga | gct | ctg | gag | ggc | cat | gag | cgg | cag | cac | ctg | 1902 |
| 171 | Thr | Pro | Glu | Glu | Leu | Arg | Ala | Leu | Glu | Gly | His | Glu | Arg | Gln | His | Leu | |
| 172 | 485 | | | | | 490 | | | | 495 | | | | 500 | | | |
| 174 | gag | gcc | cgg | ctg | cag | agc | ctg | cgt | aac | atc | cac | aca | ctg | ctg | gac | gcc | 1950 |
| 175 | Glu | Ala | Arg | Leu | Gln | Ser | Leu | Arg | Asn | Ile | His | Thr | Leu | Leu | Asp | Ala | |
| 176 | | | | | | 505 | | | | 510 | | | | 515 | | | |
| 178 | gcc | atg | ctg | cag | atc | aac | cag | tac | ctc | acc | gtg | ctg | gcc | tcc | ttg | ggg | 1998 |
| 179 | Ala | Met | Leu | Gln | Ile | Asn | Gln | Tyr | Leu | Thr | Val | Leu | Ala | Ser | Leu | Gly | |
| 180 | | | | | | 520 | | | | 525 | | | | 530 | | | |
| 182 | ccc | ccc | cgg | cct | gcc | act | tca | gtc | aac | tcc | act | gag | ggg | act | gcc | act | 2046 |
| 183 | Pro | Pro | Arg | Pro | Ala | Thr | Ser | Val | Asn | Ser | Thr | Glu | Gly | Thr | Ala | Thr | |
| 184 | | | | | | 535 | | | | 540 | | | | 545 | | | |
| 186 | aca | gtt | gtt | gct | gct | gcc | tcc | tcc | acc | agc | atc | cct | agc | tca | gag | gcc | 2094 |
| 187 | Thr | Val | Val | Ala | Ala | Ala | Ser | Ser | Thr | Ser | Ile | Pro | Ser | Ser | Glu | Ala | |
| 188 | | | | | | 550 | | | | 555 | | | | 560 | | | |
| 190 | acg | acc | cca | acc | cca | gga | gcc | tcc | cca | cca | gcc | cct | gaa | atg | gaa | agg | 2142 |
| 191 | Thr | Thr | Pro | Thr | Pro | Gly | Ala | Ser | Pro | Pro | Ala | Pro | Glu | Met | Glu | Arg | |
| 192 | 565 | | | | | 570 | | | | 575 | | | | 580 | | | |
| 194 | cct | cca | gct | cct | gag | tca | gtg | ggc | aca | gag | gag | atg | cct | gag | gat | gga | 2190 |
| 195 | Pro | Pro | Ala | Pro | Glu | Ser | Val | Gly | Thr | Glu | Glu | Met | Pro | Glu | Asp | Gly | |
| 196 | | | | | | 585 | | | | 590 | | | | 595 | | | |

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198 gag ccc gat gca gca gag ctg cgc cgg cgc cgc ctg cag aag ctg gag 2238
199 Glu Pro Asp Ala Ala Glu Leu Arg Arg Arg Arg Leu Gln Lys Leu Glu
200      600      605      610
202 tct cct gtt gcc cac tga cactgccccca gccagcccc agcctctgct 2286
203 Ser Pro Val Ala His
204      615
206 cttttgagca gccctcgctg gaacatgtcc tgccaccaag tgccagctcc ctctctgtct 2346
208 gcaccagggga gtagtacccc cagctctgag aaagaggcgg catcccctag gccaaagtga 2406
210 aagaggctgg gggtccatt tgactccagt cccaggcagc catggggatc tcgggtcagt 2466
212 tccagccttc ctctccaact cttcagccct gtgttctgct ggggccatga aggcagaagg 2526
214 tttagcctct gagaagccct cttcttcccc cacccttttc caggagaagg ggctgcccct 2586
216 ccaagcccta cttgtatgtg cggagtcaca ctgcagtgcc gaacagtatt agctcccgtt 2646
218 cccaagtgtg gactccagag gggctggagg caagctatga acttgctcgc tggcccaccc 2706
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230 tcccagcgcc caaggaaggc cacttctcaa ctggcagaac ttctgaagtt tagaattgga 3066
232 attacttcct tactagtgtc ttttggttta aattttgtct tttgaagttg aatgcttaat 3126
234 cccgggaaag aggaacagga gtgccagact cctggtcttt ccagtttaga aaaggctctg 3186
236 tgccaaggag ggaccacagg agctgggacc tgccctcccc tgccttttcc ctttggtttt 3246
238 gtgttacaag agttgttgga gacagtttca gatgattatt taatttgtaa atattgtaca 3306
240 aattttaata gcttaaattg tatatacagc caaataaaaa cttgcattaa caaaaaaaaaa 3366
242 aaaaaaaaaa 3374
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246 <211> LENGTH: 617
247 <212> TYPE: PRT
248 <213> ORGANISM: Homo sapiens
250 <400> SEQUENCE: 2
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255 20 25 30
257 Val Val Tyr Leu Thr Lys Ser Ser Pro Ser Met Ala Val Leu Tyr Ile
258 35 40 45
260 Gln Ala Phe Val Leu Val Phe Leu Leu Gly Lys Val Met Gly Lys Val
261 50 55 60
263 Phe Phe Gly Gln Leu Arg Ala Ala Glu Met Glu His Leu Leu Glu Arg
264 65 70 75 80
266 Ser Trp Tyr Ala Val Thr Glu Thr Cys Leu Ala Phe Thr Val Phe Arg
267 85 90 95
269 Asp Asp Phe Ser Pro Arg Phe Val Ala Leu Phe Thr Leu Leu Leu Phe
270 100 105 110
272 Leu Lys Cys Phe His Trp Leu Ala Glu Asp Arg Val Asp Phe Met Glu
273 115 120 125
275 Arg Ser Pro Asn Ile Ser Trp Leu Phe His Cys Arg Ile Val Ser Leu
276 130 135 140
278 Met Phe Leu Leu Gly Ile Leu Asp Phe Leu Phe Val Ser His Ala Tyr

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279 145          150          155          160
281 His Ser Ile Leu Thr Arg Gly Ala Ser Val Gln Leu Val Phe Gly Phe
282          165          170          175
284 Glu Tyr Ala Ile Leu Met Thr Met Val Leu Thr Ile Phe Ile Lys Tyr
285          180          185          190
287 Val Leu His Ser Val Asp Leu Gln Ser Glu Asn Pro Trp Asp Asn Lys
288          195          200          205
290 Ala Val Tyr Met Leu Tyr Thr Glu Leu Phe Thr Gly Phe Ile Lys Val
291          210          215          220
293 Leu Leu Tyr Met Ala Phe Met Thr Ile Met Ile Lys Val His Thr Phe
294 225          230          235          240
296 Pro Leu Phe Ala Ile Arg Pro Met Tyr Leu Ala Met Arg Gln Phe Lys
297          245          250          255
299 Lys Ala Val Thr Asp Ala Ile Met Ser Arg Arg Ala Ile Arg Asn Met
300          260          265          270
302 Asn Thr Leu Tyr Pro Asp Ala Thr Pro Glu Glu Leu Gln Ala Met Asp
303          275          280          285
305 Asn Val Cys Ile Ile Cys Arg Glu Glu Met Val Thr Gly Ala Lys Arg
306          290          295          300
308 Leu Pro Cys Asn His Ile Phe His Thr Ser Cys Leu Arg Ser Trp Phe
309 305          310          315          320
311 Gln Arg Gln Gln Thr Cys Pro Thr Cys Arg Met Asp Val Leu Arg Ala
312          325          330          335
314 Ser Leu Pro Ala Gln Ser Pro Pro Pro Pro Glu Pro Ala Asp Gln Gly
315          340          345          350
317 Pro Pro Pro Ala Pro His Pro Pro Pro Leu Leu Pro Gln Pro Pro Asn
318          355          360          365
320 Phe Pro Gln Gly Leu Leu Pro Pro Phe Pro Pro Gly Met Phe Pro Leu
321          370          375          380
323 Trp Pro Pro Met Gly Pro Phe Pro Pro Val Pro Pro Pro Ser Ser
324 385          390          395          400
326 Gly Glu Ala Val Ala Pro Pro Ser Thr Ser Ala Ala Ala Leu Ser Arg
327          405          410          415
329 Pro Ser Gly Ala Ala Thr Thr Thr Ala Ala Gly Thr Ser Ala Thr Ala
330          420          425          430
332 Ala Ser Ala Thr Ala Ser Gly Pro Gly Ser Gly Ser Ala Pro Glu Ala
333          435          440          445
335 Gly Pro Ala Pro Gly Phe Pro Phe Pro Pro Pro Trp Met Gly Met Pro
336          450          455          460
338 Leu Pro Pro Pro Phe Ala Phe Pro Pro Met Pro Val Pro Pro Ala Gly
339 465          470          475          480
341 Phe Ala Gly Leu Thr Pro Glu Glu Leu Arg Ala Leu Glu Gly His Glu
342          485          490          495
344 Arg Gln His Leu Glu Ala Arg Leu Gln Ser Leu Arg Asn Ile His Thr
345          500          505          510
347 Leu Leu Asp Ala Ala Met Leu Gln Ile Asn Gln Tyr Leu Thr Val Leu
348          515          520          525
350 Ala Ser Leu Gly Pro Pro Arg Pro Ala Thr Ser Val Asn Ser Thr Glu
351          530          535          540

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